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Technologies on Labor Demand in South Asian Countries -- The Digitization of Innovation and the Role of Advanced Human Capital -- Technology for Local Resilience and Community Innovation -- Conclusions -- Notes -- References -- Chapter 5 Human Capital Empowerment: The Importance of Trust, Data Safeguards, and Protection of Vulnerable Groups -- Introduction -- The Role of Trust in the Use of Technology -- Data Governance -- Governance of Converging and Dual-Use Technologies -- Conclusions -- Notes -- References -- Chapter 6 Technology in the World Bank's Portfolio of Human Capital Projects in South Asia. Introduction -- Breakdown of Technology Components of the World Bank's Human Capital-Related Portfolio in South Asia -- Assessment of Technology Maturity in World Bank Projects -- Implications for Future Engagement -- Notes -- Chapter 7 Scenario Planning: Imagining Alternative Futures for Human Development in South Asia -- Introduction -- Technology Metatrends -- Critical Uncertainties -- Four Alternative Futures -- Recommendations -- Notes -- References -- Chapter 8 Accelerating Human Capital Outcomes in South Asia: The Technology Agenda -- Synthesis -- Nine Action Areas for Leveraging the Converging Technology Revolution to Improve Human Capital Outcomes -- Rising to the Challenge -- Note -- Reference -- Appendix A Technology Metatrends -- Boxes -- Box 4.1 Timeline from Scientific Discoveries to Adoption of Technologies at Scale: The Green Revolution and Treatment of HIV/AIDS -- Box 5.1 National Artificial Intelligence Strategies in the South Asia Region -- Box 6.1 Methodology for Analysis of the World Bank's South Asia Project Portfolio for Human Capital -- Box 7.1 Scenario Analysis: Uses and Methods -- Figures -- Figure ES.1 Nine Action Areas in Which Technology Can Build and Protect, Deploy and Utilize, and Empower Human Capital -- Figure 2.1 Relationship between Technology and Human Capital -- Figure 2.2 How Does Technology Enable Human Capital Outcomes and Vice Versa? -- Figure 2.3 Technology Classification Schema and the Human Capital Framework -- Figure 3.1 Mobile Phone and Desktop/Laptop Ownership by Income and Gender and Internet Awareness and Usage: Selected Countries, South Asia -- Figure 3.2 Human Development Technology Landscapes in Health, Education, and Social Protection Sectors, South Asia -- Figure 3.3 Account Ownership and Digital Payments: Selected Countries, South Asia -- Figure 4.1 How Technology and Other Channels Affect Jobs. Figure 4.2 Timeline from Discovery to Impact at Scale: Green Revolution (1960-2010) and HIV/AIDS (1990-2010) -- Figure 6.1 Technology in World Bank Human Capital-Related Ongoing and Pipeline Projects in South Asia: Build and Protect Pillar -- Figure 6.2 Technology in World Bank Human Capital-Related Ongoing and Pipeline Projects in South Asia: Deploy and Utilize and Empower Pillars -- Figure 6.3 World Bank Human Development Ongoing and Pipeline Projects by Level of Technology Maturity, South Asia -- Figure 7.1 Summary of Alternative Futures Used in Scenario Planning Exercise -- Figure 8.1 Nine Action Areas in Which Technology Can Build and Protect, Deploy and Utilize, and Empower Human Capital -- Tables -- Table 2.1 Summary of Interview Responses: Kerala (India), Nepal, and Pakistan -- Table 3.1 Technologies for Improving Service Delivery for Building and Protecting Human Capital -- Table 5.1 Risks Posed by Converging Technologies -- Table A.1 Metatrend 1: Technologies for Building and Protecting Human Capital -- Table A.2 Metatrend 2: Data-Driven and Hybrid Human-Machine Technologies for Productive Activities -- Table A.3 Metatrend 3: Complex and Dynamic Innovation Ecosystems -- Table A.4 Metatrend 4: Governance of Dual-Use Technologies.

South Asia is heavily impacted by the devastating loss of lives and human capital from the COVID-19 pandemic and the converging technology revolution sweeping the globe. The Converging Technology Revolution and Human Capital: Potential and Implications for South Asia looks at how the region could capitalize on these technologies to accelerate its development of human capital and promote adaptability and resilience to future shocks. The convergence of technological breakthroughs spanning biotechnology, nanotechnology, information technology, and cognitive science is driven by artificial intelligence, data flows, computing power, and connectivity. These breakthroughs can improve service delivery, productivity, and innovation, but they can also exacerbate inequalities and eliminate people's agency and empowerment. This report analyzes these trends in the region, offering a comprehensive agenda to exploit the opportunities offered by converging technologies while minimizing the risks to vulnerable populations. It proposes strategies for building public sector capacity and promoting data and technology governance frameworks in a rapidly evolving technology landscape.
